

CLAIMS

What is claimed:

1. A process for preparing a flexible polyurethane foam comprising reacting:

(a) a polyisocyanate-terminated prepolymer comprising the reaction product of:

- (i) 80-100% by weight of a diphenylmethane diisocyanate comprising at least 40% by weight of 4,4'-diphenylmethane diisocyanate and/or a derivative of said diphenylmethane diisocyanate that is liquid at 25°C,
- (ii) 20-0% by weight of another polyisocyanate,
- (iii) a first polyether polyol having an average nominal functionality of 2-8, an average equivalent weight of 750-5000, an average molecular weight of 2000-12000, and an oxyethylene content of 50-90% by weight, and
- (iv) a second polyether polyol having an average nominal hydroxyl functionality of 2-8, an average equivalent weight of 750-5000, an average molecular weight of 2000-12000, and an oxyethylene content of 0-25% by weight,

wherein, the first polyether polyol and the second polyether polyol are used in a weight ratio of from 10:90 to 90:10; and

(b) an isocyanate-reactive composition comprising:

- (i) 80-100% by weight of a polyether polyol having an average nominal functionality of 2-8, an average equivalent weight of 750-5000, an average molecular weight of 2000-12000, and an oxyethylene content of 50-90% by weight, and
- (ii) 20-0% by weight of one or more other isocyanate-reactive compounds other than water;

in the presence of water, wherein the reaction is conducted at an isocyanate index of 70 to 120 and the polyisocyanate-terminated prepolymer has a NCO value of 5-30% by weight.

2. The process according to claim 1, wherein the polyisocyanate-terminated prepolymer has a NCO value of 10-25% by weight and the diphenylmethane diisocyanate comprises at least 70% by weight of 4,4'-diphenylmethane diisocyanate and/or a derivative of said diphenylmethane diisocyanate that is liquid at 25°C.

3. The process of claim 2, wherein the first polyether polyol has an average nominal functionality of 2-6, an average equivalent weight of 1000-4000, an average molecular weight of 2000-10000, and an oxyethylene content of 60-85% by weight.

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4. The process of claim 2, wherein the second polyether polyol has an average nominal hydroxyl functionality of 2-6, an average equivalent weight of 1000-4000, an average molecular weight of 2000-10000, and an oxyethylene content of 5-20% by weight.

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5. The process of claim 3, wherein the second polyether polyol has an average nominal hydroxyl functionality of 2-6, an average equivalent weight of 1000-4000, an average molecular weight of 2000-10000, and an oxyethylene content of 5-20% by weight.

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6. The process of claim 2, wherein, the first polyether polyol and the second polyether polyol are used in a weight ratio of from 30:70 to 70:30.

7. The process of claim 5, wherein, the first polyether polyol and the second polyether polyol are used in a weight ratio of from 30:70 to 70:30.

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8. The process of claim 2, wherein the polyether polyol (b)(i) has an average nominal functionality of 2-6, an average equivalent weight of 1000-4000, an average molecular weight of 2000-10000, and an oxyethylene content of 60-85% by weight.

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9. The process of claim 7, wherein the polyether polyol (b)(i) has an average nominal functionality of 2-6, an average equivalent weight of 1000-4000, an average molecular weight of 2000-10000, and an oxyethylene content of 60-85% by weight.

10. A flexible polyurethane foam obtained according to the process of claim 1.

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11. A flexible polyurethane foam obtained according to the process of claim 9.